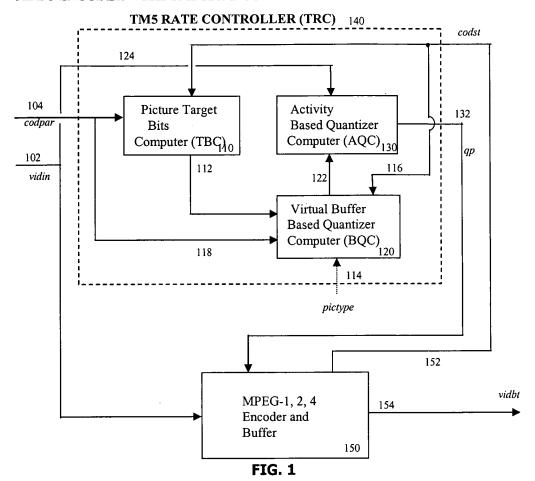
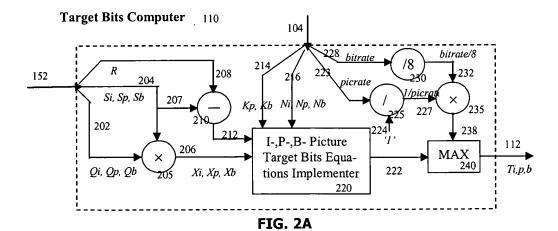
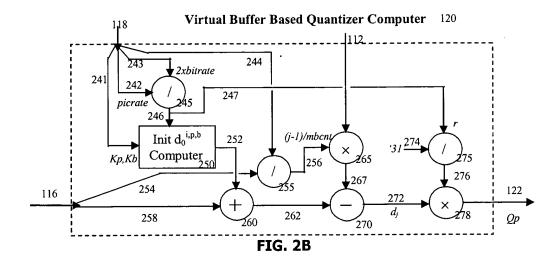
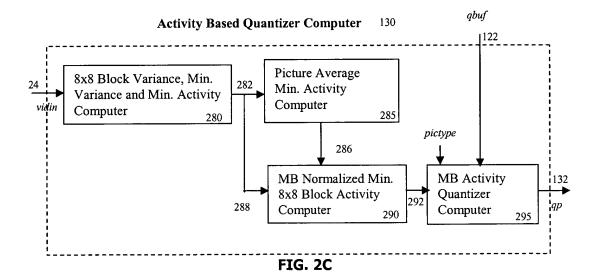
## MPEG ENCODER WITH TM5 RATE CONTROLLER 100









## H.264/MPEG-4 AVC ENCODER WITH RQC RATE CONTROLLER

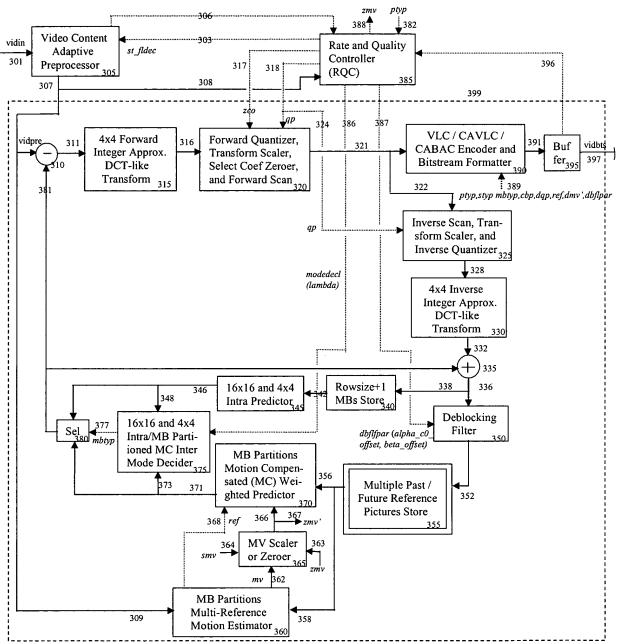


FIG. 3

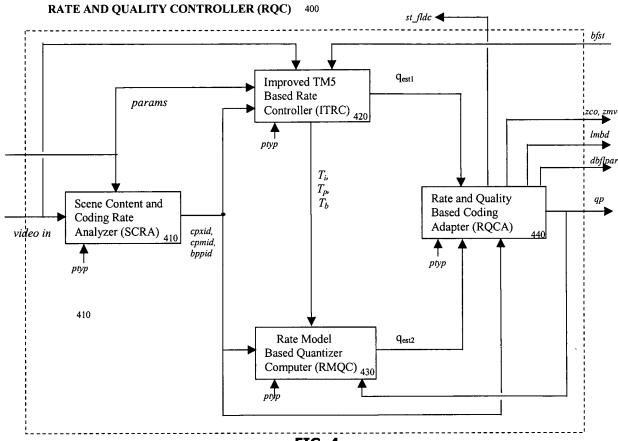


FIG. 4

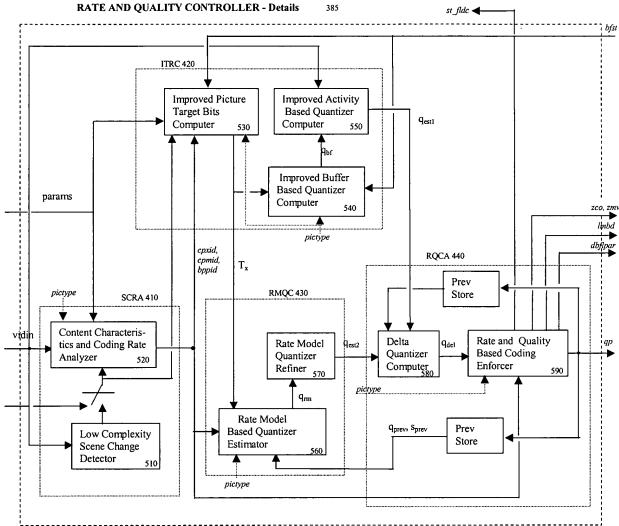
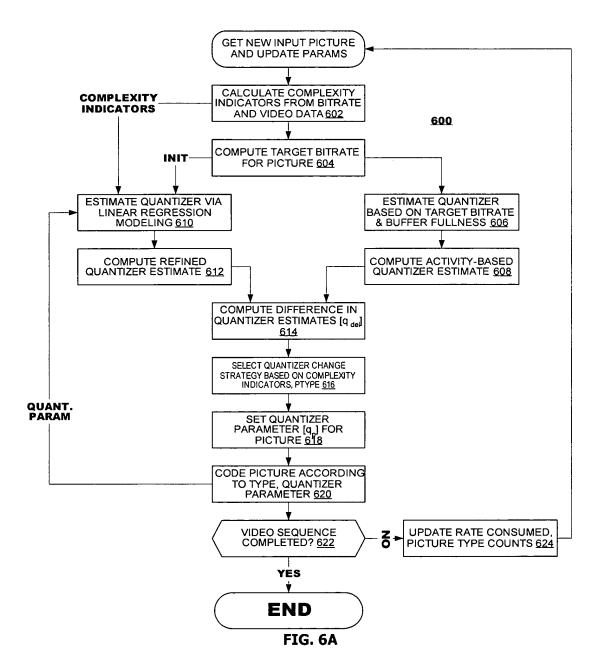


FIG. 5



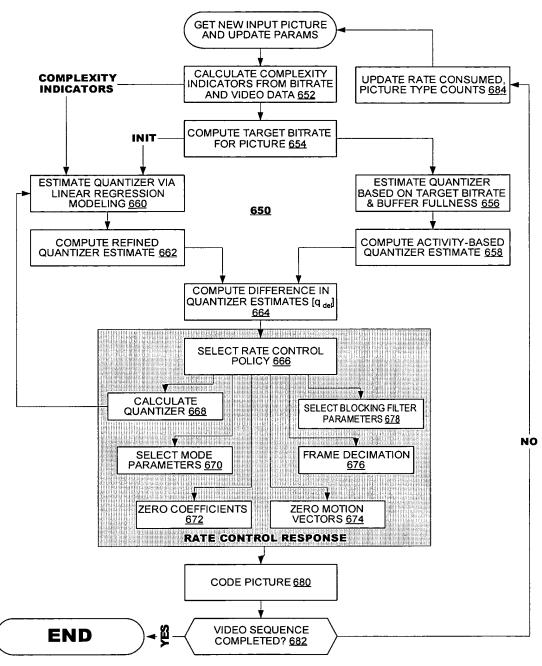


FIG. 6B

## 700-Video frames coding order when employing 2 B-frame coding structure

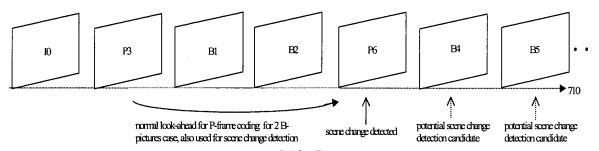


FIG. 7

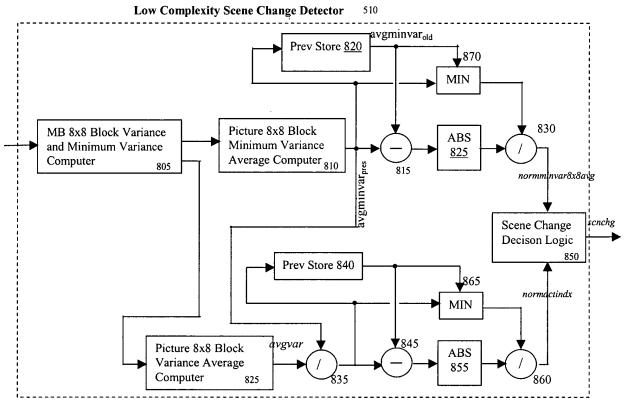


FIG. 8A

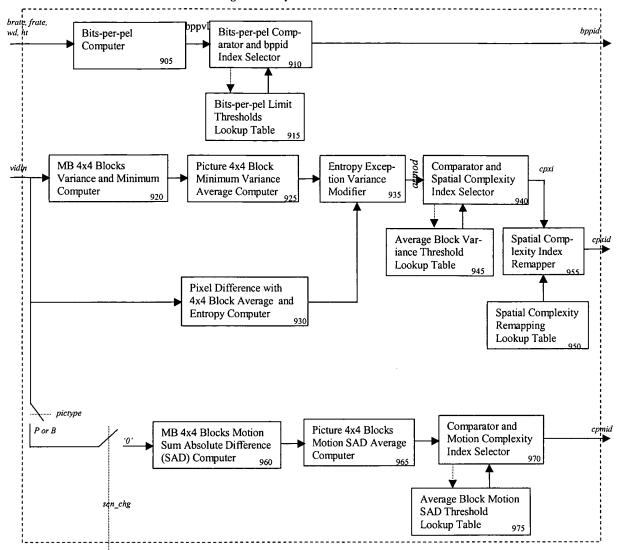
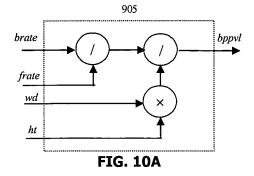


FIG. 9



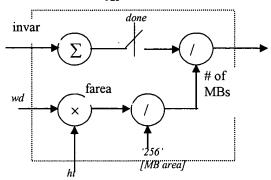


FIG. 10B

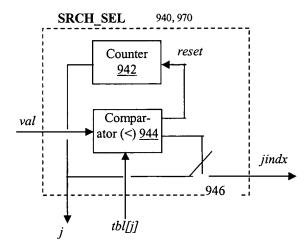


FIG. 10C

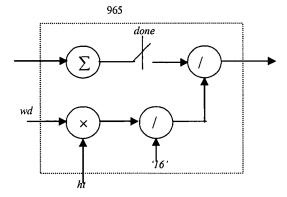
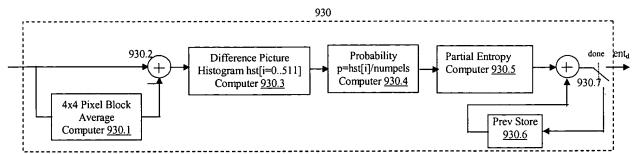
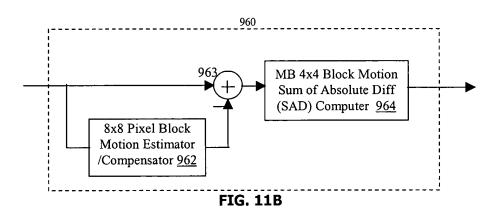


FIG. 10D



**FIG. 11A** 



minvar4x4avg

Min Variance Avg.
Comparator (<)
936

Pixel Difference
Ent. Comparator
(>) 938

ENTDLMT

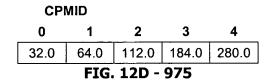
**BBPID** 2 3 5 6 7 8 0 1 0.01052 0.02104 0.04208 0.08416 0.16832 0.33664 0.67328 1.34656 2.69312

**FIG. 11C** 

FIG. 12A - 915

CPID												
0	1	2	3	4	5	6	7	8	9	10	11	
1.0	2.0	4.5	8.5	12.5	17.0	22.0	28.0	34.0	41.0	50.0	60.0	
			12	13	14	15	16	17				
			71.0	84.0	100.0	120.0	145.0	177.0				
FIG. 12B - 945												

CP	XID									
0	1	2	3	4	5	6	7	8		
1	3	5	7	9	11	13	15	17		
FIG 12C -955										



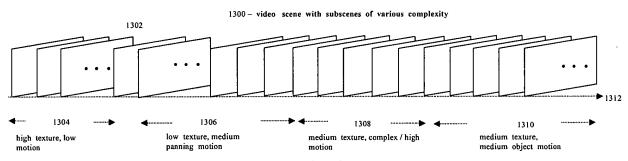
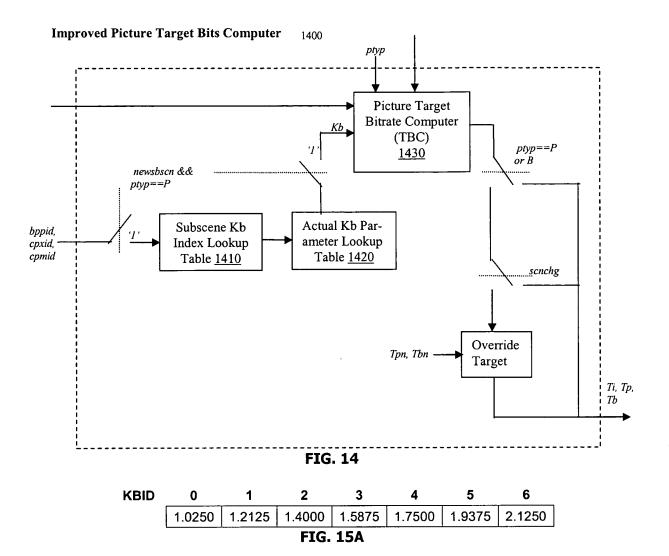


FIG. 13



CDMID	CPXID						CDMID-	CPMID=1				CPXID									
CPMID	) <b>-</b> 2	0	0 1 2 3 4 5 6 7 8			CPIVIID-	CPIVIID-1		1	2	3	4	5	6	7	8					
	0	2	2	2	3	3	3	4	4	4		0	2	2	2	2	2	3	3	3	3
	1	2	2	2	2	3	3	3	4	4		1	2	2	2	2	2	2	3	3	3
	2	2	2	2	2	2	3	3	3	4		2	2	2	2	2	2	2	2	3	3
۵	3	2	2	2	2	2	2	3	3	3	Ω	3	2	2	2	2	2	2	2	2	3
BPPID	4	2	2	2	2	2	2	2	3	3	BPPID	4	2	2	2	2	2	2	2	2	2
Ω	5	2	2	2	2	2	2	2	2	3	Ω	5	1	2	2	2	2	2	2	2	2
	6	1	2	2	2	2	2	2	2	2		6	1	1	2	2	2	2	2	2	2
	7	1	1	2	2	2	2	2	2	2		7	1	1	1	2	2	2	2	2	2
	8	1	1	1	2	2	2	2	2	2		8	1	1	1	1	2	2	2	2	2
	FIG. 15B																				

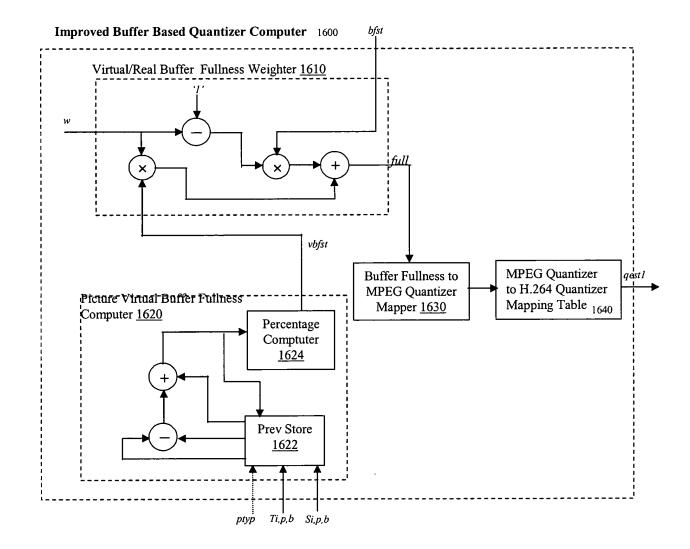


FIG. 16

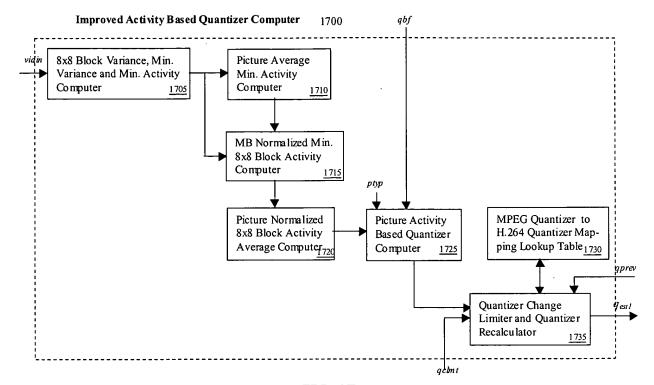


FIG. 17

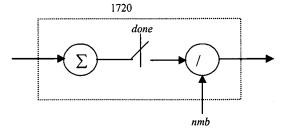


FIG. 18A

qh:	264											
0	1	2	3	4	5	6	7	8	9	10	11	12
.250	.281	.315	.353	.396	.446	.500	.561	.623	.707	.794	.891	1.00
13	14	15	16	17	18	19	20	21	22	23	24	25
1.12	1.26	1.41	1.59	1.78	2.00	2.25	2.52	2.82	3.18	3.56	4.00	4.49
26	27	28	29	30	31	32	33	34	35	36	37	38
5.04	5.65	6.35	7.13	8.00	8.98	10.08	11.31	12.70	14.25	16.00	17.96	20.16
39	40	41	42	43	44	45	46	47	48	49	50	51
22.63	25.39	28.51	32.00	35.92	40.31	45.25	50.80	57.02	64.00	71.83	80.64	90.51

FIG. 18B

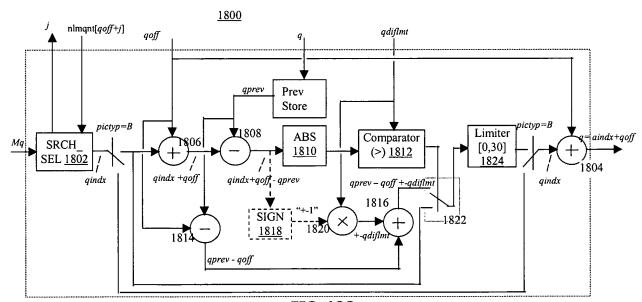
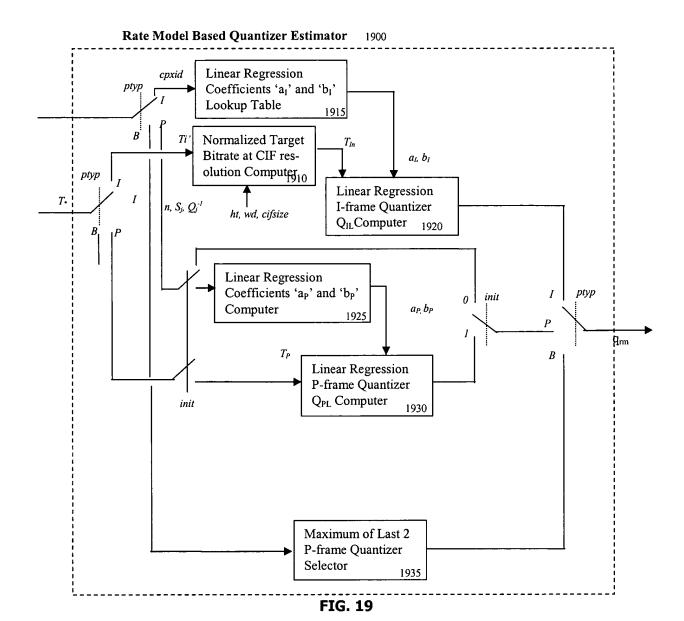


FIG. 18C



CPID					
0	1	2	3	4	5
-68134.59213	-87003.98467	-106202.60465	-125401.23463	-133506.23620	-141558.73699
6	7	8	9	10	11
-149611.24778	-151588.19751	-220858.39744	-293963.81117	-254808.46319	-215653.11522
12	13	14	15	16	17
-207487.50918	-1993321.90315	-191155.48428	-182989.06541	-178235.75132	-169521.36854

FIG. 20A

CPID					
0	1	2	3	4	5
3313453.21342	3993567.19336	4565785.16255	5138003.13174	5715464.15501	6104194.66665
6	7	8	9	10	11
6492925.17829	6678722.15535	9084900.80067	11517856.77655	10611605.70466	9705354.63278
12	13	14	15	16	17
9777071.15962	9848787.68646	9920504.21330	9992220.74014	10623397.89991	11435042.39299

FIG. 20B

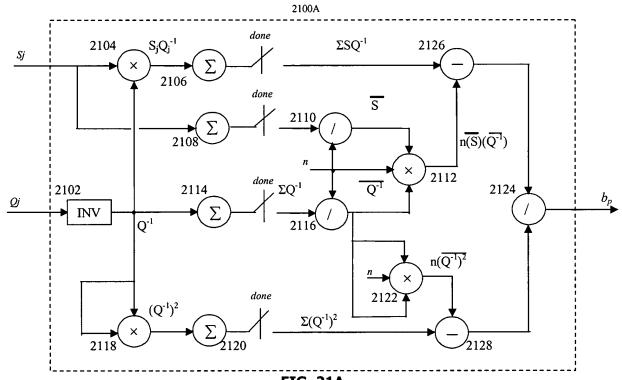


FIG. 21A

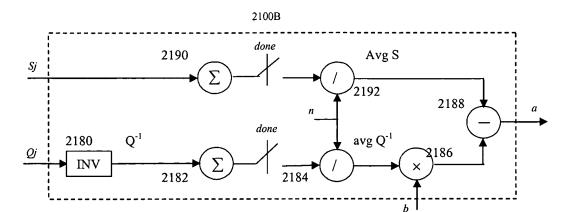
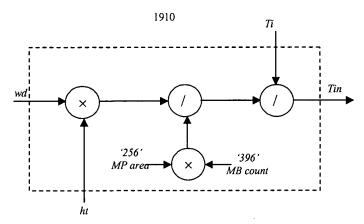


FIG. 21B



**FIG. 22A** 

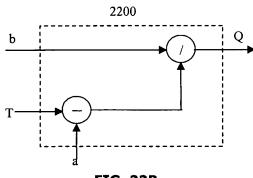
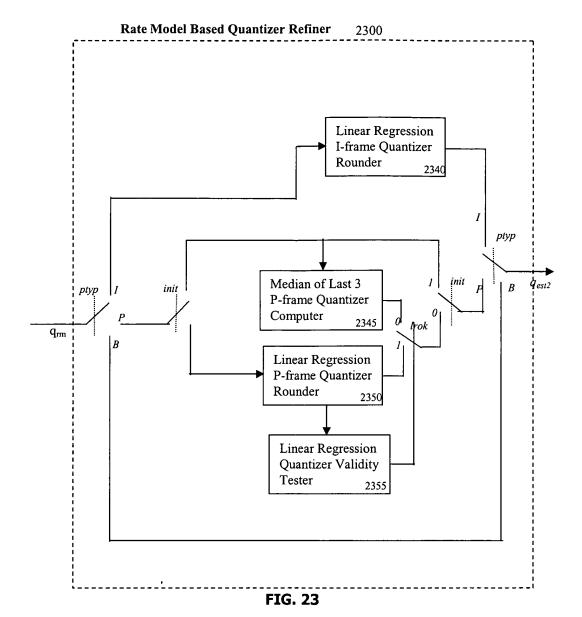
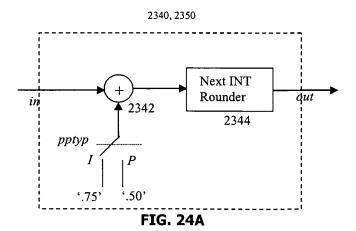


FIG. 22B





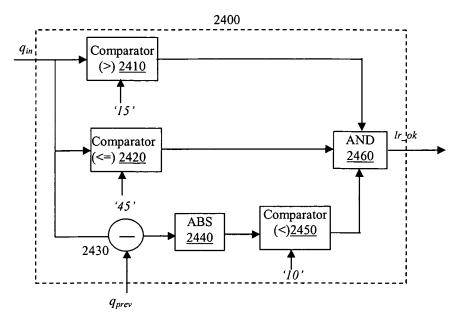


FIG. 24B

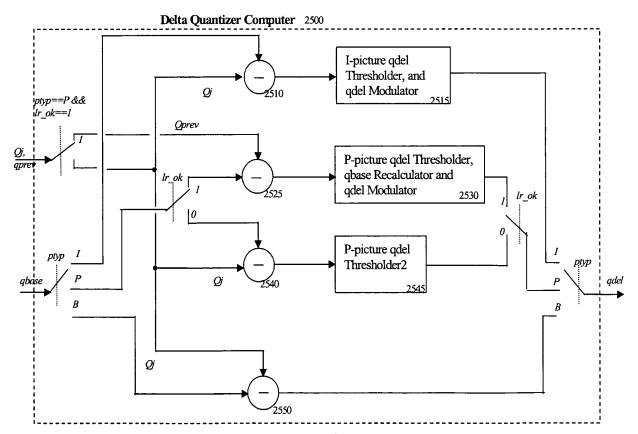
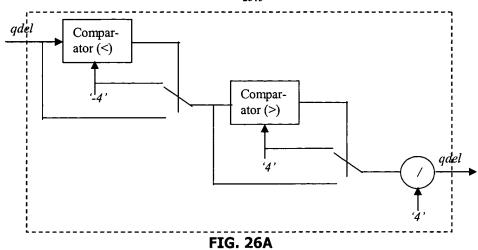
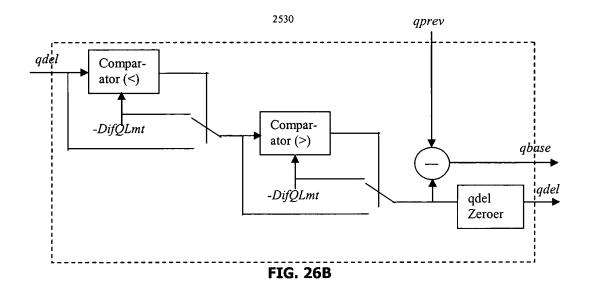
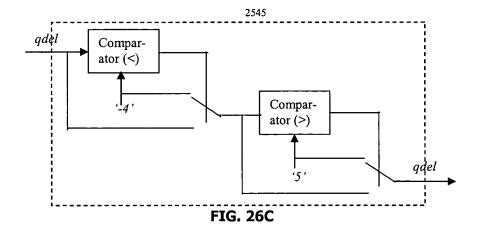


FIG. 25







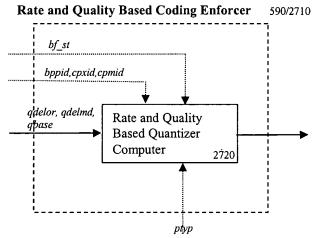


FIG. 27

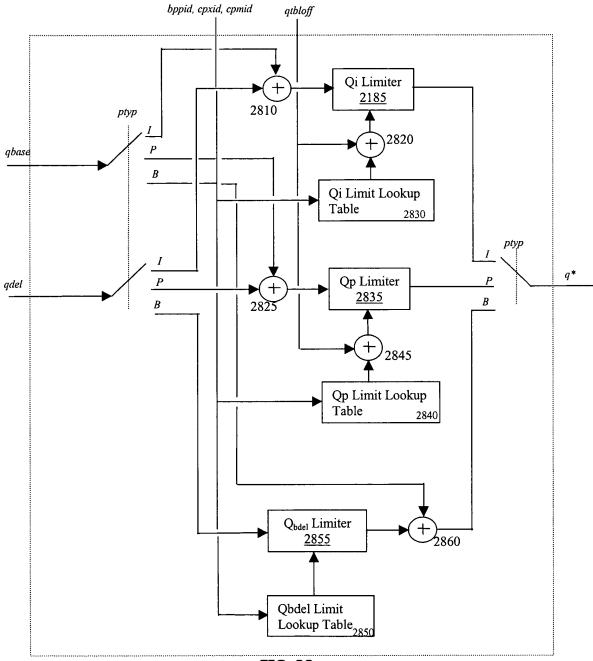


FIG. 28

		CPXID												
		0	1	2	3	4	5	6	7	8				
	0	10	11	12	13	14	15	16	17	18				
	1	9	10	11	12	13	14	15	16	17				
	2	8	9	10	11	12	13	14	15	16				
Ω	3	7 .	8	9	10	11	12	13	14	15				
BPPID	4	6	7	8	9	10	11	12	13	14				
Ω	5	5	6	7	8	9	10	11	12	13				
	6	4	5	6	7	8	9	10	11	12				
	7	3	4	5	6	7	8	9	10	11				
	8	2	3	4	5	6	7	8	9	10				

FIG. 29A

		CPXID											
		0	1	2	3	4	5	6	7	8			
	0	10	11	12	13	14	15	16	17	18			
	1	9	10	11	12	13	14	15	16	17			
	2	8	9	10	11	12	13	14	15	16			
Δ	3	7	8	9	10	11	12	13	14	15			
BPPID	4	6	7	8	9	10	11	12	13	14			
Ω	5	5	6	7	8	9	10	11	12	13			
	6	4	5	6	7	8	9	10	11	12			
	7	3	4	5	6	7	8	9	10	11			
	8	2	3	4	5	6	7	8	9	10			

FIG. 29B

		CPXID											
		0	1	2	3	4	5	6	7	8			
	0	2	2	2	3	3	3	4	4	4			
	1	1	2	2	2	3	3	3	4	4			
	2	1	1	2	2	2	3	3	3	4			
۵	3	1	1	1	2	2	2	3	3	3			
BPPID	4	1	1	1	1	2	2	2	3	3			
Ω	5	0	1	1	1	2	2	2	2	3			
	6	0	0	1	_ 1	1	2	2	2	2			
	7	0	0	0	1	1	1	2	2	2			
	8	0	0	0	0	1	1	1	2	2			

FIG. 29C

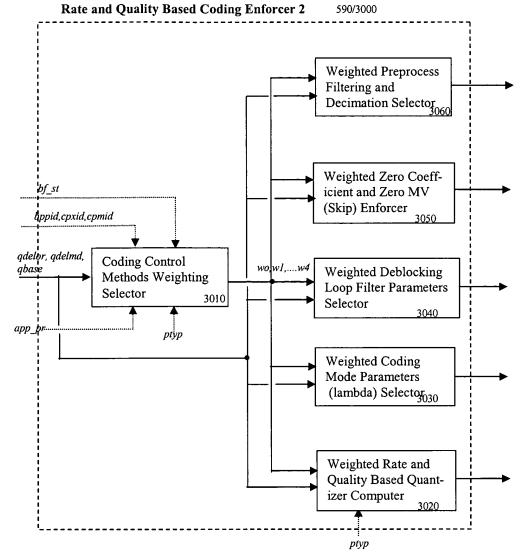


FIG. 30

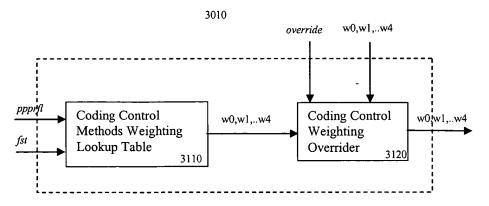


FIG. 31

4												
				_	3	0.37	0.05	0.16	0.01	0.28	0.06	0.19
			2	2	0.09	0.12	0.46	0.26	0.21	0.15	0.07	0.36
		1		0.22	0.45	0.16	0.20	0.24	0.45	0.18	0.09	0.38
		0	0.09	0.09	0.05	0.27	0.21	0.27	0.31	0.25	0.09	0.33
app_	_pr_	0	1	2	3	4	5	6	0.13	0.26	0.08	0.39
	٥ſ	023	0.30	0.18	0.26	0.07	0.07	0.26	0.14	0.23	0.1	0.3
	1	0.11	0.48	0.25	0.03	0.23	0.15	0.19	0.12	0.27	0.08	0.34
	2	0.08	0.21	0.45	0.18	0.15	0.12	0.15	0.14	0.21	0.08	0.35
	3	0.44	0.39	0.07	0.09	0.31	0.45	0.28	0.11	0.23	0.09	0.29
ts o	4	0.47	0.30	0.28	0.12	0.08	0.35	0.10	0.12	0.24	0.07	0.32
bfst	5	0.44	0.37	0.10	0.30	0.29	0.15	0.41	0.13	0.2	0.08	
	6	0.20	0.47	0.38	0.22	0.44	0.27	0.27	0.1	0.22		
	7	0.10	0.12	0.47	0.27	0.10	0.09	0.22	0.11			
	8	0.30	0.22	0.49	0.46	0.18	0.49	0.47				
	9	0.11	0.44	0.07	0.03	0.36	0.09	0.35				

FIG. 32

## Weighted Rate and Quality Based Quantizer Computer 3020

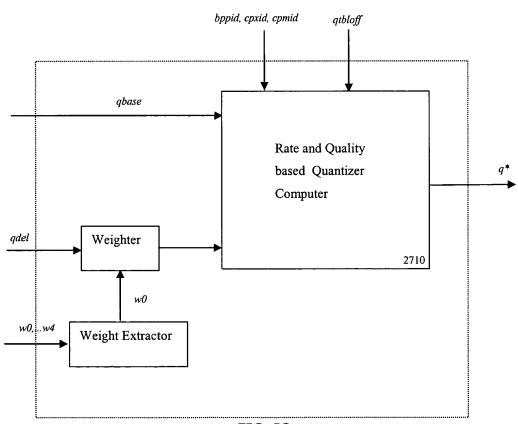


FIG. 33